

REMARKS

By the present Amendment, claims 1-6 are cancelled and claims 7-12 are added. This leaves claims 7-12 pending in the application, with claim 7 being independent.

Substitute Specification

The specification is revised to obviate the objections raised, to eliminate grammatical and idiomatic errors in the originally presented specification, and to add an Abstract of the Disclosure on a separate page. The number and nature of the changes made in the specification would render it difficult to consider the case and to arrange the papers for printing or copying. Thus, the substitute specification will facilitate processing of the application. The substitute specification includes no “new matter”. Pursuant to M.P.E.P. § 608.01(q), voluntarily filed, substitute specifications under these circumstances should normally be accepted. A marked-up copy of the original specification is appended hereto.

Rejections Under 35 U.S.C. § 112, Second Paragraph

Original claims 1-6 stand rejected under 35 U.S.C. § 112, second paragraph as being indefinite. The newly presented claims are drafted to avoid the alleged instances of indefiniteness.

The presently pending claims are definite and comply with 35 U.S.C. § 112.

Rejections Under 35 U.S.C. §§ 102 and 103

Claim 7 covers a threaded ring for threadedly engaging an externally threaded section of a spindle. The threaded ring comprises a one piece body having first and second body components 1 and 3, a gap 15 between the body components, an elastically flexible wall

component 29 connecting the body components, and a plurality of set screws 31 to adjust the geometry of the gap by adjustment of the flexible wall. The first body component forms a set collar with a planar surface 11 at one end thereof extending in a radial plane relative to the body longitudinal axis. The second body component forms a retaining ring connected to the first body component and having a front surface 25. The gap 15 has a radially outer end 17. A first circumferential area 19 is on the first body component. A second cylindrical circumferential area 21 is on the second body component, and forms the flexible wall component. The second circumferential surface is spaced from the longitudinal axis by a distance less than the radial spacings of the first circumferential area and of the radially outer end of the gap from the longitudinal axis. The radially outer end 17 is spaced radially from the longitudinal axis by a distance less than the radial spacing of the first circumferential area from the longitudinal axis. The second circumferential area ends at an axial distance from the gap to define a dimension of the flexible wall component in an axial direction and extends from the front surface to the flexible wall component.

By forming the threaded ring in the manner, the ring has a simple construction that can be easily formed, while providing effective operation.

Claims 1 and 2 stand rejected 35 U.S.C. § 102 as being anticipated by U.S. Patent No. 609,144 to Goddin. The Goddin patent, particularly in figures 1 and 2, is alleged to disclose a one piece threaded ring having a first body component A and second body component B with a gap a between them enabling an adjustment between the components to provide a thread lock. The screw is apparently relied upon as the actuating means since no actuating means is identified. The Goddin ring shape is alleged to be of the same shape as that disclosed in this application.

Claims 3-6 stand rejected 35 U.S.C. § 103 as being unpatentable over the Goddin patent in view of DE 16 75 685 B to Spieth. The Spieth patent is cited for a ring, similar to the Goddin thread ring, having a first component 8 and a second component 9 with a gap 5 or 6 between them and as having a set screw 10 providing an actuating means having a head received in a counterbore in the second component. In support of the rejection, it is contended that it would be obvious to provide the Spieth set screws in the Goddin device.

Claim 1 is patentably distinguishable over the Goddin patent by the plurality of set screws coupled to the body components to adjust geometry of the gap by adjustment of the flexible wall component. Such deficiency is not cured by the Spieth patent since one of ordinary skill in the art would not find it obvious to combine these two patents in the manner proposed in the rejection in view of the dissimilarity of the structures disclosed therein.

The Goddin patent discloses, in Figs. 1 and 2, a lock nut comprising a nut A and a boss B provided with a recess forming a web b. It does not form a locking ring for a spindle. When nut A and boss B are threaded on a threaded part C, parts A and B must be forced apart to a greater or lesser extent before the threaded part C can enter the threading of the boss B. The web b spring biases nut A and boss B toward one another. Thus, the cited Goddin lock nut does not disclose and has no need for a plurality of set screws, as claimed.

The cited Spieth patent does not cure these deficiencies. The Spieth patent discloses two separate body parts 8 and 9, which are only connected by the screws 10 for locking a bearing in place on a spindle. It does not have a gap that can be adjusted in its geometry and does not have a flexible wall component, as claimed. Additionally, the Spieth threaded ring does not include the claimed radial spacings of the second circumferential area on the part 9 relative to the outer end of the gap and the circumferential area of the part 8 to meet the claimed relative dimensions.

The substantially different structures and purposes of the Goddin and Spieth devices demonstrate that it would not be obvious to combine them in the manner proposed in the rejection. The Goddin patent comprises two parts biased toward one another and separable by the threaded part C received therein, such that it already has a mechanism for the drawing the two parts together and separating them. One of ordinary skill in the art would not contemplate or find obvious using set screws to accomplish these operations in addition to the biasing function and threaded connection with threaded part C. Since the Goddin patent is a mere lock nut, one of ordinary skill in the art would not use the teachings of a threaded ring of a machine part, such as that disclosed in the Spieth patent, to modify the Goddin lock nut. The addition of set screws would have no function in the Goddin lock nut, and thus, it would not be obvious to add them in view of the Spieth patent.

As noted above, the Goddin patent merely relates to a lock nut, while the Spieth patent relates to a locking ring for locking a bearing in place. The intended uses and construction of each of these two different devices shows that one of ordinary skill in the art would not look at one to modify the other. The non-analogous nature of these two patents demonstrates the non-obviousness of the proposed combination.

Further, the set screws of the Spieth patent could not be added to the Goddin lock nut without substantial modification of that lock nut. The inability to add those set screws to the Goddin lock nut further demonstrates the non-obviousness of the modification proposed in the statement of the rejection.

Accordingly, claim 7 is patentably distinguishable over the Goddin and Spieth patents. None of the other cited patents cure these deficiencies.

Claims 8-12, being dependent upon claim 7, are also allowable for the above reasons. Moreover, these dependent claims recite additional features further distinguishing them over the cited patents. Specifically, the arrangement of the set screws in claim 8, the second body component recesses and set screw heads of claim 9, the flush arrangement of the end surfaces of the set screw heads relative to the second body front surface of claim 10, the set screws bearing on the second body component and threadedly engaged in the first body component of claim 11, and the threaded engagement of the first and second body components with an externally threaded portion of the spindle of claim 12, are not anticipated or rendered obvious by the cited patents, particularly within the overall claimed combinations.

In view of the foregoing, claims 7-12 are allowable. Prompt and favorable action is solicited.

Respectfully submitted,



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